

WHAT IS CLAIMED IS:

1. An isolated nucleic acid molecule which encodes a protein which comprises the amino acid sequence as depicted in SEQ ID No. 1.
2. A nucleic acid molecule according to Claim 1 which encodes a protein which only possesses the amino acid sequence as depicted in SEQ ID No. 1.
3. A nucleic acid molecule according to Claim 1 or 2 which is a DNA molecule.
4. A nucleic acid molecule according to Claim 3 which comprises a base sequence as depicted in SEQ ID No. 2 or a base sequence which only differs from the sequence as depicted in SEQ ID No. 2 because of the degeneracy of the genetic code.
5. A nucleic acid molecule according to Claim 3 which comprises a base sequence as depicted in SEQ ID No. 3 or a base sequence which only differs from the sequence as depicted in SEQ ID No. 3 because of the degeneracy of the genetic code.
6. A nucleic acid molecule according to Claim 3 which comprises a base sequence as depicted in SEQ ID No. 4 or a base sequence which only differs from the sequence as depicted in SEQ ID No. 4 because of the degeneracy of the genetic code.
7. A nucleic acid molecule according to Claim 3 which only possesses a base sequence which is selected from the SEQ ID No. 2, SEQ ID No. 3 and SEQ ID No. 4 group of base sequences or from a base sequence which only differs from one of said sequences because of the degeneracy of the genetic code.
8. A vector which comprises a nucleic acid molecule according to any one of Claims 1 to 7.
9. A vector according to Claim 8 which is suitable for transforming a host cell.
10. A vector according to Claim 9 in which the host cell is a microorganism.
11. A vector according to Claim 10 in which the microorganism is a filamentous fungus.

12. A vector according to Claim 11 in which the filamentous fungus is selected from the group consisting of *Penicillium chrysogenum*, *Penicillium notatum*, *Penicillium brevicompactum*, *Penicillium citrinum*, *Acremonium chrysogenum*, *Aspergillus nidulans*, *Aspergillus niger*, *Aspergillus fumigatus*, *Aspergillus terreus* and *Tolypocladium inflatum*.
13. A vector according to Claim 12 in which the filamentous fungus is *Penicillium chrysogenum*.
14. A host cell which is transformed with a nucleic acid molecule according to any one of Claims 1 to 7 or with a vector according to any one of Claims 8 to 13.
15. A host cell according to Claim 14 which is a microorganism.
16. A host cell according to Claim 15 in which the microorganism is a filamentous fungus.
17. A host cell according to Claim 16 in which the filamentous fungus is selected from the group consisting of *Penicillium chrysogenum*, *Penicillium notatum*, *Penicillium brevicompactum*, *Penicillium citrinum*, *Acremonium chrysogenum*, *Aspergillus nidulans*, *Aspergillus niger*, *Aspergillus fumigatus*, *Aspergillus terreus* and *Tolypocladium inflatum*.
18. A host cell according to Claim 17 in which the filamentous fungus is *Penicillium chrysogenum*.
19. A process for producing penicillin which comprises culturing a host cell according to Claim 18 under conditions which are suitable for bringing about the formation of penicillin by the host cell.
20. The process according to Claim 19 in which the penicillin is penicillin G or penicillin V.
21. The process according to Claim 19 or 20 which furthermore comprises the isolation of the penicillin which has been formed.

- 18 -

22. An isolated protein which comprises an amino acid sequence as depicted in SEQ ID No. 1.

23. A protein according to Claim 22 which only possesses the amino acid sequence as depicted in SEQ ID No. 1.